

Q4 November 10, 1994, entitled "Densified Cellulose Fiber Pads and Methods of Making the Same," and Serial No. 08/669,406, now U.S. Patent No. 5,837,627, filed July 3, 1996, entitled "Fibrous Web Having Improved Strength and Method of Making the Same," both expressly incorporated herein by reference. The absorbent can also be produced by foam processes known in the art. See, for example, U.S. Patents Nos. 3,716,449; 3,839,142; 3,871,952; 3,937,273; 3,938,782; 3,947,315; 4,166,090; 4,257,754; and 5,215,627, assigned to Wiggins Teape and related to the formation of fibrous materials from foamed aqueous fiber suspensions, expressly incorporated herein by reference. Generally, the methods for forming the unitary stratified composite of this invention include the sequential or simultaneous laying down of a first stratum (e.g., the components of the second stratum) followed by the laying down of a second stratum (e.g., the components of the first stratum) on the first laid stratum. The strata can also be laid in reverse order. The formed strata are then subjected to conditions sufficient to effect bonding (i.e., air drying and heating) between and within the strata to provide the unitary stratified composite of the invention. The processed web can be delivered in roll form, spooled form, or otherwise. Preferably, the method includes festooning as a finishing step.

In the Claims:

Please amend Claims 1-19, 24-26, 29-31, 34-36, 39-41, 44, and 51-61 as follows:

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1. (Amended) An absorbent article, comprising:
- an absorbent unitary composite, comprising a first stratum, a second stratum, and a transition zone intermediate and coextensive with the first stratum and the second stratum;
- the first stratum comprising hydrophobic fibers and a binder;
- the second stratum comprising a binder and fibers selected from the group consisting of hydrophilic fibers, hydrophobic fibers, and mixtures thereof; and
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the transition zone comprising fibers from the first stratum and the second stratum commingled substantially uniformly across the composite's width and along the composite's length.

2. (Amended) The absorbent article of Claim 1, wherein at least one of the first or the second stratum comprises synthetic fibers.

3. (Amended) The absorbent article of Claim 1, wherein the second stratum further comprises crosslinked cellulosic fibers.

4. (Amended) The absorbent article of Claim 1, wherein at least one of the binders comprises a bicomponent fiber or a wet strength agent.

5. (Amended) The absorbent article of Claim 1, wherein the article is a feminine care product, an infant diaper, or an adult incontinence product.

6. (Amended) An absorbent article, comprising:

(a) a liquid pervious topsheet;

(b) an absorbent unitary composite, comprising a first stratum, a second stratum, and a transition zone intermediate and coextensive with the first stratum and the second stratum;

the first stratum comprising hydrophobic fibers and a binder;

the second stratum comprising a binder and fibers selected from the group consisting of hydrophilic fibers, hydrophobic fibers, and mixtures thereof; and

the transition zone comprising fibers from the first stratum and the second stratum commingled substantially uniformly across the composite's width and along the composite's length; and

(c) a liquid impervious backsheet.

7. (Amended) The absorbent article of Claim 6, wherein at least one of the first or the second stratum comprises synthetic fibers.

8. (Amended) The absorbent article of Claim 6, wherein the second stratum further comprises crosslinked cellulosic fibers.

9. (Amended) The absorbent article of Claim 6, wherein at least one of the binders comprises a bicomponent fiber or a wet strength agent.

10. (Amended) The absorbent article of Claim 6, wherein the article is a feminine care product, an infant diaper, or an adult incontinence product.

11. (Amended) An absorbent article, comprising:

(a) a liquid pervious topsheet;

(b) an absorbent unitary composite, comprising a first stratum, a second stratum, and a transition zone intermediate and coextensive with the first stratum and the second stratum;

the first stratum comprising hydrophobic fibers and a binder;

the second stratum comprising a binder and fibers selected from the group consisting of hydrophilic fibers, hydrophobic fibers, and mixtures thereof; and

the transition zone comprising fibers from the first stratum and the second stratum commingled substantially uniformly across the composite's width and along the composite's length;

(c) a storage stratum comprising an absorbent fibrous material; and

(d) a liquid impervious backsheet.

12. (Amended) The absorbent article of Claim 11, wherein at least one of the first or the second stratum comprises synthetic fibers.

13. (Amended) The absorbent article of Claim 11, wherein the second stratum further comprises crosslinked cellulosic fibers.

14. (Amended) The absorbent article of Claim 11, wherein at least one of the binders comprises a bicomponent fiber or a wet strength agent.

15. (Amended) The absorbent article of Claim 11, wherein the article is an infant diaper or an adult incontinence product.

¹16. (Amended) An absorbent article, comprising:

(a) a liquid pervious topsheet;

^{as} (b) an absorbent composite, comprising a first stratum, a second stratum, and a transition zone intermediate and coextensive with the first stratum and the second stratum;

the first stratum comprising hydrophobic fibers and a binder;

the second stratum comprising a binder and fibers selected from the group consisting of hydrophilic fibers, hydrophobic fibers, and mixtures thereof; and

the transition zone comprising fibers from the first stratum and the second stratum commingled substantially uniformly across the composite's width and along the composite's length;

(c) a storage stratum comprising an absorbent fibrous material;

(d) an intermediate stratum interposed between the absorbent composite and the storage stratum; and

(e) a liquid impervious backsheet.

²17. (Amended) The absorbent article of Claim ¹16, wherein at least one of the first or the second stratum comprises synthetic fibers.

³18. (Amended) The absorbent article of Claim ¹16, wherein the second stratum further comprises crosslinked cellulosic fibers.

Q5 19. (Amended) The absorbent article of Claim 16, wherein at least one of the binders comprises a bicomponent fiber or a wet strength agent.

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Q6 24. (Amended) The absorbent article of Claim 23, wherein at least one of the second or the distribution stratum comprises crosslinked cellulosic fibers.

25. (Amended) The absorbent article of Claim 23, wherein at least one of the second or the distribution stratum comprises crosslinked eucalyptus fibers.

26. (Amended) An absorbent article, comprising:
an absorbent unitary composite, comprising a first stratum, a second stratum, and a transition zone intermediate and coextensive with the first stratum and the second stratum;
the first stratum comprising first fibers and a binder;
the second stratum comprising second fibers and a binder; and
the transition zone comprising fibers from the first stratum and the second stratum commingled substantially uniformly across the composite's width and along the composite's length.

Q7 29. (Amended) The absorbent article of Claim 26, wherein at least one of the binders comprises a bicomponent fiber or a wet strength agent.

30. (Amended) The absorbent article of Claim 26, wherein the article is a feminine care product, an infant diaper, or an adult incontinence product.

31. (Amended) An absorbent article, comprising:
(a) a liquid pervious topsheet;
(b) an absorbent unitary composite, comprising a first stratum, a second stratum, and a transition zone intermediate and coextensive with the first stratum and the second stratum;
the first stratum comprising first fibers and a binder;

the second stratum comprising second fibers and a binder; and
the transition zone comprising fibers from the first stratum and the second stratum
commingled substantially uniformly across the composite's width and along the composite's
length; and

(c) a liquid impervious backsheet.

34. (Amended) The absorbent article of Claim 31, wherein at least one of the binders
comprises a bicomponent fiber or a wet strength agent.

35. (Amended) The absorbent article of Claim 31, wherein the article is a feminine
care product, an infant diaper, or an adult incontinence product.

36. (Amended) An absorbent article, comprising:

(a) a liquid pervious topsheet;

(b) an absorbent unitary composite, comprising a first stratum, a second
stratum, and a transition zone intermediate and coextensive with the first stratum and the second
stratum;

the first stratum comprising first fibers and a binder;

the second stratum comprising second fibers and a binder; and

the transition zone comprising fibers from the first stratum and the second stratum
commingled substantially uniformly across the composite's width and along the composite's
length;

(c) a storage stratum comprising an absorbent fibrous material; and

(d) a liquid impervious backsheet.

39. (Amended) The absorbent article of Claim 36, wherein at least one of the binders
comprises a bicomponent fiber or a wet strength agent.

a9 40. (Amended) The absorbent article of Claim 36, wherein the article is an infant diaper or an adult incontinence product.

11 41. (Amended) An absorbent article, comprising:

- (a) a liquid pervious topsheet;
- (b) an absorbent composite, comprising a first stratum, a second stratum, and a transition zone intermediate and coextensive with the first stratum and the second stratum;
 - the first stratum comprising first fibers and a binder;
 - the second stratum comprising second fibers and a binder; and
 - the transition zone comprising fibers from the first stratum and the second stratum commingled substantially uniformly across the composite's width and along the composite's length;
- (c) a storage stratum comprising an absorbent fibrous material;
- (d) an intermediate stratum interposed between the absorbent composite and the storage stratum; and
- (e) a liquid impervious backsheet.

a10 14 44. (Amended) The absorbent article of Claim 41, wherein at least one of the binders comprises a bicomponent fiber or a wet strength agent.

a11 51. (Amended) An absorbent article, comprising:

- an absorbent unitary composite, comprising a first stratum, a second stratum, and a transition zone intermediate and coextensive with the first stratum and the second stratum;
- the first stratum comprising synthetic fibers and a binder;
- the second stratum comprising crosslinked cellulosic fibers and a binder; and

an the transition zone comprising fibers from the first stratum and the second stratum commingled substantially uniformly across the composite's width and along the composite's length.

52. (Amended) The absorbent article of Claim 51, wherein at least one of the binders comprises a bicomponent fiber or a wet strength agent.

53. (Amended) The absorbent article of Claim 51, wherein the article is a feminine care product, an infant diaper, or an adult incontinence product.

54. (Amended) An absorbent article, comprising:

(a) a liquid pervious topsheet;

(b) an absorbent unitary composite, comprising a first stratum, a second stratum, and a transition zone intermediate and coextensive with the first stratum and the second stratum;

the first stratum comprising synthetic fibers and a binder;

the second stratum comprising crosslinked cellulosic fibers and a binder; and

the transition zone comprising fibers from the first stratum and the second stratum commingled substantially uniformly across the composite's width and along the composite's length; and

(c) a liquid impervious backsheet.

55. (Amended) The absorbent article of Claim 54, wherein at least one of the binders comprises a bicomponent fiber or a wet strength agent.

56. (Amended) The absorbent article of Claim 54, wherein the article is a feminine care product, an infant diaper, or an adult incontinence product.

57. (Amended) An absorbent article, comprising:

(a) a liquid pervious topsheet;

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(b) an absorbent unitary composite, comprising a first stratum, a second stratum, and a transition zone intermediate and coextensive with the first stratum and the second stratum;

the first stratum comprising synthetic fibers and a binder;

the second stratum comprising crosslinked cellulosic fibers and a binder; and

the transition zone comprising fibers from the first stratum and the second stratum commingled substantially uniformly across the composite's width and along the composite's length;

(c) a storage stratum comprising an absorbent fibrous material; and

(d) a liquid impervious backsheet.

58. (Amended) The absorbent article of Claim 57, wherein at least one of the binders comprises a bicomponent fiber or a wet strength agent.

59. (Amended) The absorbent article of Claim 57, wherein the article is an infant diaper or an adult incontinence product.

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(Amended) An absorbent article, comprising:

(a) a liquid pervious topsheet;

(b) an absorbent composite, comprising a first stratum, a second stratum, and a transition zone intermediate and coextensive with the first stratum and the second stratum;

the first stratum comprising synthetic fibers and a binder;

the second stratum comprising crosslinked cellulosic fibers and a binder; and

the transition zone comprising fibers from the first stratum and the second stratum commingled substantially uniformly across the composite's width and along the composite's length;

(c) a storage stratum comprising an absorbent fibrous material;

(d) an intermediate stratum interposed between the absorbent composite and the storage stratum; and

Q4 22 (e) a liquid impervious backsheet.
61. (Amended) The absorbent article of Claim 21, wherein at least one of the binders comprises a bicomponent fiber or a wet strength agent.